

### REMARKS

Claims 1-13, 15, 33, and 43-45 were pending in the instant application. By this Amendment, Applicants have amended claims 1, 44, and 45 to recite that group A is a radical having at least 19 carbon atoms. Support for the claim amendments can be found throughout the specification and claims as originally filed. Specifically, support can be found, *inter alia*, at pages 41-44 of the specification. This Amendment does not introduce any new matter, and thus, its entry is respectfully requested. Upon entry of the present Amendment, claims 1-13, 15, 33, and 43-45, as amended, will be pending and under examination.

### The April 5, 2005 Final Office Action

In the April 5, 2005 Final Office Action, the Examiner maintained the rejection of claims 1-13, 15, 33, and 43-45 under 35 U.S.C. §103(a) as allegedly being unpatentable over AT 393505 and Eibl, et al. (EP 534,445), each taken alone, for reasons already of record. Specifically, the Examiner has taken the position that the cited references teach phosphates, phosphoamines, and phosphate esters which are structurally similar to the instant claimed compounds, asserting that the difference between some of the compounds of the prior art and the claimed compounds "is that the instant claimed compounds are generically described in the prior art." In particular, the Examiner again directed attention to pages 3, 4, 17, and 22-25 and Examples 13 and 14 of AT 393505. According to the Examiner, this reference also teaches phosphate esters which are structurally similar to the instant compounds, the specific example compounds differing from Applicants' claimed compounds only by a methylene group. The Examiner specifically compared Applicants' claim 1 (wherein  $p=8$  and  $q=5$ ) and the reference's Example 14 ( $p=8$  and  $q=4$ ), stating that one recites a pentyl group ( $q=5$ ) where the other recites a butyl group ( $q=4$ ). According to the Examiner, one such homologue does not represent an advance over the other because one of skill in the chemical art, knowing the properties of one homologue, would know what to expect of the other.

The Examiner asserted that Applicants have not demonstrated in a side-by-side showing any unexpected beneficial results of the claimed compounds over the specie prepared in the cited prior art.

In response, without conceding the correctness of the Examiner's position, but to expedite allowance of the subject application, Applicants have amended the claims to include the recitation that "A is a radical having at least 19 carbon atoms." Thus, in the claimed compounds, the double bond in A is at a distance from O which does not appear in a naturally-occurring corresponding radical, (i.e., the double bond is not at the same position as it would be in the underlying naturally-occurring alcohol or acid) *and* A is a radical having at least 19 carbon atoms. As set forth throughout the specification, such modifications, achieved through a novel process, allow one to change and specifically control the physical, biochemical, and biological properties of the compounds. Such structural variations in the apolar region lead to compounds exhibiting improved antitumor activity (See page 4, lines 15-24 and page 14, lines 20-32), and further allow one to produce the compounds in industrial quantities.

Applicants additionally point out that the compounds of the present invention, as reflected in the amended claims, exhibit further surprising advantages over the prior art compounds. In that regard, Applicants note that shorter-chained compounds, i.e., those having a chain length up to 18 carbon atoms, such as those in Examples 13 and 14 of AT 393505 (relied on by the Examiner in rejecting the claims), show good anti-tumor activity but exhibit significant toxicity. Therefore, such compounds having a short carbon chain cannot be administered intravenously, but rather only orally, where the toxicity is not a problem. In contrast, prior known compounds having greater chain length, i.e., having at least 19 carbon atoms, did not exhibit anti-tumor effect when administered orally because they could not be taken up in sufficient amounts by that route. These compounds thus could only be administered in effective amounts intravenously. However, such administration was not appropriate due to the toxicity problems noted above. With the present invention, however, it has been surprisingly found that the toxicity problems known in the art no longer occur with compounds having a double bond in a non-naturally occurring position, as claimed in the present

invention. Moreover, it was surprisingly found that tumor-effective concentrations of these compounds are no-longer toxic. This was also demonstrated in the tests concerning (Z)-10-docosenyl-1-phosphocholine submitted with Applicants' December 15, 2004 response. Thus, the compounds of the present invention, which include a double bond in a non-naturally occurring position and a chain length of at least 19 carbon atoms, exhibit surprising and unexpected properties over the prior art compounds, including, *inter alia*, the suitability for intravenous administration due to their retained effectiveness and low toxicity. Thus the claimed compounds represent surprisingly useful agents. Accordingly, Applicants' invention is not rendered obvious over the art cited by the Examiner. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1-13, 15, 33, and 43-45 under 35 U.S.C. §103(a).

In view of the above remarks and claim amendments, Applicants believe that the Examiner's rejections set forth in the April 5, 2005 Final Office Action have been fully overcome and that the present claims fully satisfy the patent statutes. Applicants therefore believe that the application is now in condition for allowance. The Examiner is invited to telephone the undersigned if it is deemed to expedite allowance of the application.

Respectfully submitted,



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